SEQUENCE LISTING

<110> Busfield, S.

```
Villeval, J.
            Jandrot-Perrus, M.
            Vainchenker, W.
      <120> GLYCOPROTEIN VI AND USES THEREOF
      <130> 7853-178
      <140>
      <141>
      <150> 09/345,468
      <151: 1999-06-30
      <160> 24
      <170: FastSEQ for Windows Version 3.0
      <210> 1
      <211: 2047
      <212> DNA
      <213> Homo sapiens
      <400> 1
ggagtegace caegegteeg cagggetgag gaaccatgte tecateceeg acegeeetet
                                                                       60
tetgtettgg getgtgtetg gggegtgtge eagegeagag tggacegete eccaageeet
                                                                      120
coetcoagge tetgeceage tecetggtge coetggagaa gecagtgace etceggtgee
                                                                      180
agggacetee gggegtggae etgtaeegee tggagaaget gagtteeage aggtaeeagg
                                                                      240
atcaggcagt cetetteate eeggeeatga agagaagtet ggetggaege tacegetget
                                                                      3:)0
cetaccagaa eggaageete tggteeetge eeagegaeea getggagete gttgeeaegg
                                                                      360
gagtttttgc caaacceteg eteteagece ageeeggeee ggeggtgteg teaggagggg
                                                                      420
acgtaaccet acagtgtcag acteggtatg getttgacca atttgetetg tacaaggaag
                                                                      480
gggaccetge geectacaag aateeegaga gatggtaceg ggetagttte eccateatea
                                                                      540
eggtgacege egeceacage ggaacetace gatgetacag ettetecage agggacecat
                                                                      600
acctgtggtc ggccccagc gacccctgg agcttgtggt cacaggaacc tctgtgaccc
                                                                      660
ccagccggtt accaacagaa ccaccttcct cggtagcaga attctcagaa gccaccgctg
                                                                      720
aactgaccgt ctcattcaca aacaaagtct tcacaactga gacttctagg agtatcacca
                                                                      730
ccagtccaaa ggagtcagac tctccagctg gtcctgcccg ccagtactac accaagggca
                                                                      840
acctggtccg gatatgcctc ggggctgtga tcctaataat cctggcgggg tttctqqcaq
                                                                      900
aggactggca cagccggagg aagcgcctgc ggcacagggg cagggctgtg cagaggccgc
                                                                      960
ttccgcccct gccgcccctc ccgcagaccc ggaaatcaca cgggggtcag gatggaggcc
                                                                     1020
gacaggatgt tcacagccgc gggttatgtt catgaccgct gaaccccagg cacggtcgta
                                                                     1080
tccaagggag ggatcatggc atgggaggcg actcaaagac tggcgtgtgt ggagcgtgga
                                                                     1140
agcaggaggg cagaggetac agctgtggaa acgaggecat getgeeteet eetggtgtte
                                                                     1200
catcagggag cogttoggco agtgtotgto tgtotgtotg cotototgto tgagggcaco
                                                                     1260
ctccatttgg gatggaagga atctgtggag accccatect cetecetgca caetgtggat
                                                                     1320
gacatggtac cetggetgga ceacatactg geetetttet teaacetete taatatggge
                                                                     1380
tecagaegga tetetaaggt teecagetet eagggttgae tetgtteeat eetetgtgea
                                                                     1440
aaatootoot gtgottooot ttggoootot gtgotottgt ctggttttoo ccagaaacto
                                                                     1500
teacecteae tecatetece actgeggtet aacaaatete etttegtete teagaaeggg
                                                                    1560
tettgeagge agtttgggta tgteatteat ttteettagt gtaaaaetag caegttgeee
                                                                    1620
gettecette acattagaaa acaagateag eetgtgeaae atggtgaaae eteateteta
                                                                    1680
ccaacaaaac aaaaaaacac aaaaattagc caggtgtggt ggtgcatccc tatactccca
                                                                     1740
gcaactcggg gggctgaggt gggagaatgg cttgagcctg ggaggcagag gttgcagtga
                                                                     1800
```

						7							•			
taca caat aata	aggg tatt	atg gct	aata gtcc	tgtc accc	aa t ca t	tacc aaat	ctga atgt	t tt a ca	gatc atta	atag tgta	cac tac	gttg attt	tat tta	acat aaat	aaaaaa gtactg cataaa agtcta	1860 1920 1980 2040 2047
	<	212>	2 101 DNA Hom		pien	S										
gaga aago agto gaco gaco taco gtaco gcao acto gcao acto	tetoring age of a care of	gac gag gat gag gtt ggg gtt ggg gtt ggg gtt ggg gtt ggg gtt ggg ggg ggg ggg ggg ggg ggg ggg ggg	ccccc cgct tgac ccag agct tgtct gccag actac ccaga cctag gcagac ctag gcagac ccaga actac ccagac cca cca ccac cca c cca cca cca c cca c cca c c c cca c cca c c c ca c	cccc cagg ctac gtcac gccagg gagt caccc gagt gagt	aa ggcccagccaggaatatcgggaatatctgggaatatctgggaatatctgg	cccticagging acging accating accating accating accaning a	cccte aggga atcae cctae gagte acgte accte ccage accte	c cae g ce g te g te g ce g te g t	ggete teege gaace tgee tgeeg gteg gtta ggtel aaage geace geetg	etge ggeg etet ggaa aaaet eece geee teat gagt aagee	tgggtcacacacacagacagacagagagagagagagagag	gete acete teece tetegete agaat gegga gegaa caaace actet tegggaag teece	ect gta gggtc gggtc cacccacc ggggg	ggtggeegetggeegetaceegetaceegetaceegetaceegetaceegetaceegetaceegetaceegetggeege	ccagcg cccctg ctggag aagaga cccagc cagccc ggcttt agatgc cgatgc tcggta ctcaca ggtcct atccta cggcac cggaaa	60 120 180 240 300 360 420 480 540 600 660 720 780 840 900 960 1017
	< 2	213>	Homo	o sap	pien	S										
1	Ser		Ser	5					10					Leu 15		
			20					25					30	Gln		
Leu	Pro	Ser 35	Ser	Leu	Val	Pro	Leu 40	Glu	Lys	Pro	Val	Thr 45	Leu	Arg	Cys	
Gln	Gly 50	Pro	Pro	Gly	Val	Asp 55	Leu	Tyr	Arg	Leu	Glu 60	Lys	Leu	Ser	Ser	
Ser 65	Arg	Tyr	Gln	Asp	Gln 70	Ala	Val	Leu	Phe	Ile 75	Pro	Ala	Met	Lys	Arg 80	
Ser	Leu	Ala	Gly	Arg 85	Tyr	Arg	Cys	Ser	Tyr 90	Gln	Asn	Gly	Ser	Leu 95	Trp	
Ser	Leu	Pro	Ser 100	Asp	Gln	Leu	Glu	Leu 105		Ala	Thr	Gly	Val 110	Phe	Ala	
Lys	Pro	Ser		Ser	Ala	Gln	Pro 120		Pro	Ala	Val	Ser 125		Gly	Gly	
Asp	Va l		Leu	Gln	Cve	Gln		Ara	Tir	Clv	Dho		Gla	Dhe	ת א	

170

Asp Val Thr Leu Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala 130 135 140

165

Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser 185 Ala Pro Ser Asp Pro Leu Glu Leu Val Val Thr Glv Thr Ser Val Thr 200 Pro Ser Arg Leu Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser 215 220 Glu Ala Thr Ala Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr 230 235 Thr Glu Thr Ser Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser 250 Pro Ala Gly Pro Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg 260 265 270 Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala 280 285 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala 290 295 300 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys 310 315 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly 330 Leu Cys Ser

<210> 4 <211> 20 <212> PRT

<213> Homo sapiens

<210> 5 <211> 319 <212> PRT <213> Homo sapiens

<400> 5

Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Leu Pro Ser Ser 10 Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys Gln Gly Pro Pro 25 Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser Ser Arg Tyr Gln 40 4.5 Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg Ser Leu Ala Gly 55 Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp Ser Leu Pro Ser 70 75 Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala Lys Pro Ser Leu 90 Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly Asp Val Thr Leu 1.05 Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu 120 125 Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser

Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys 150 155 Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser Ala Pro Ser Asp 170 Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr Pro Ser Arg Leu 185 190 Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser Glu Ala Thr Ala 200 205 Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr Thr Glu Thr Ser 215 220 Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser Pro Ala Gly Pro 230 235 Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg Ile Cys Leu Gly 250 Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala Glu Asp Trp His 265 270 Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala Val Gln Arg Pro 280 Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys Ser His Gly Gly 295 300 Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly Leu Cys Ser 310 <210> 6 <211> 41 <212> PRT <213> Homo sapiens <400> 6 Cys Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser 10 Ser Ser Arg Tyr Gln Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys 20 25 Arg Ser Leu Ala Gly Arg Tyr Arg Cys 35 <210> 7 <211> 47 <212> PRT <213> Homo sapiens <400> 7 Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu Gly 1 10 Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser Phe 25 Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys <210> 8 <211> 19 <212> PRT <213> Homo sapiens Leu Val Arg Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala

<210> 9 <211> 249 <212> PRT <213 > Homo sapiens Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Leu Pro Ser Ser 10 Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys Gln Gly Pro Pro 20 25 Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser Arg Tyr Gln 40 45 Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg Ser Leu Ala Gly 55 Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp Ser Leu Pro Ser 70 75 Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala Lys Pro Ser Leu 85 90 Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly Asp Val Thr Leu 100 105 Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu 120 Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser 135 Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arq Cys 150 Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser Ala Pro Ser Asp 170 Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr Pro Ser Arg Leu 185 Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser Glu Ala Thr Ala 200 Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr Thr Glu Thr Ser 215 Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser Pro Ala Gly Pro 230 235 Ala Arg Gln Tyr Tyr Thr Lys Gly Asn 245 <210> 10 <211> 51 <212> PRT <213> Homo sapiens <400> 10 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala 1.0 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys 25 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly 35 Leu Cys Ser 50 <1.10> 11 <111> 2170



<400> 11 ctgagggete atecetetge agagegeggg gteaceggga ggagaegeea tgaegeeege б0 cctcacagec etgetetgee ttgggetgag tetgggeece aggaecegeg tgcaggeagg 120 gcccttcccc aaacccaccc tctgggctga gccaggctct gtgatcagct gggggagccc 180 cgtgaccatc tggtgtcagg ggagcctgga ggcccaggag taccgactgg ataaagaggg 240 aageceagag eeettggaca gaaataaeee aetggaaeee aagaacaagg eeagattete 300 cateceatee atgaeagage accatgeggg gagatacege tgeeactatt acagetetge 360 aggetggtea gageceageg acceeetgga getggtgatg acaggattet acaacaaace 420 caccetetea gecetgeeea gecetgtggt ggeeteaggg gggaatatga ceeteeqatq 480 tggctcacag aagggatate accattttgt tetgatgaag gaaggagaac accaqeteee 540 ceggaeeetg gaeteaeage ageteeacag tggggggtte eaggeeetgt teeetgtggg 600 ccccgtgaac cccagccaca ggtggaggtt cacatgctat tactattata tgaacacccc 660 ccaggtgtgg tcccacccca gtgaccccct ggagattctg ccctcaggcg tgtctaggaa 720 gecetecete etgaceetge agggeeetgt cetggeeeet gggeagagee tgaceeteea 780 gtgtggctct gatgtcggct acgacagatt tgttctgtat aaggaggggg aacgtgactt 840 cctccagege cctggccage agecccagge tgggetetee caggccaact teaccetggg 900 ccctgtgagc ccctcccacg ggggccagta caggtgctat ggtgcacaca acctctcctc 960 cgagtggtcg gcccccagcg accccctgaa catcctgatg gcaggacaga tctatgacac 1020 cgtctccctg tcagcacagc cgggccccac agtggcctca ggagagaacg tgaccctgct 1080 gtgtcagtca tggtggcagt ttgacacttt ccttctgacc aaagaagggg cagcccatcc 1140 cccactgcgt ctgagatcaa tgtacggagc tcataagtac caggctgaat tccccatgag 1200 tectgtgace teageeeacg eggggaceta caggtgetae ggeteataca getecaacee 1260 ccacctgctg tettteccca gtgagecect ggaactcatg gteteaggae actetggagg 1320 etecageete ecacecacag ggeegeette cacacetggt etgggaagat acetggaggt 1380 tttgattggg gtctcggtgg ccttcgtcct gctgctcttc ctcctcctct tcctcctct 1440 ccgacgtcag cgtcacagca aacacaggac atctgaccag agaaagactg atttccagcg 1500 teetgeaggg getgeggaga cagageecaa ggacagggge etgetgagga ggteeageec 1560 agetgetgae gtecaggaag aaaaceteta tgetgeegtg aaggaeacae agtetgagga 1620 cagggtggag ctggacagtc agagcccaca cgatgaagac ccccaggcag tgacgtatgc 1680 cccggtgaaa cactccagtc ctaggagaga aatggcctct cctccctcct cactgtctgg 1740 ggaatteetg gacacaaagg acagacaggt ggaagaggac aggcagatgg acactgagge 1800 tgctgcatct gaagcctccc aggatgtgac ctacgcccag ctgcacagct tgacccttag 1860 acggaaggca actgagcctc ctccatccca ggaaggggaa cctccagctg agcccagcat 1920 ctacgccact ctggccatcc actagcccgg ggggtacgca gaccccacac tcagcagaag 1980 gagactcagg actgctgaag gcacgggagc tgcccccagt ggacaccagt gaaccccagt 2040 cagcctggac ccctaacaca gaccatgagg agacgctggg aacttgtggg actcacctga 2100 ctcaaagatg actaatatcg tcccattttg gaaataaagc aacagacttc tcaacaatca 2160 atgagttaat 2170

<210> 12 <211> 631 <212> PRT <213> Homo sapiens

<400> 12

 Met
 Thr
 Pro
 Ala
 Leu
 Thr
 Ala
 Leu
 Leu
 Cys
 Leu
 Gly
 Leu
 Gly
 Leu
 Gly
 Leu
 Gly
 Leu
 Gly
 Leu
 Gly
 Inch
 <th

Ala Arg Phe Ser Ile Pro Ser Met Thr Glu His His Ala Gly Arg Tyr 8.5 Arg Cys His Tyr Tyr Ser Ser Ala Gly Trp Ser Glu Pro Ser Asp Pro Leu Glu Leu Val Met Thr Gly Phe Tyr Asn Lys Pro Thr Leu Ser Ala Leu Pro Ser Pro Val Val Ala Ser Gly Gly Asn Met Thr Leu Arg Cys Gly Ser Gln Lys Gly Tyr His His Phe Val Leu Met Lys Glu Gly Glu His Gln Leu Pro Arg Thr Leu Asp Ser Gln Gln Leu His Ser Gly Gly Phe Gln Ala Leu Phe Pro Val Gly Pro Val Asn Pro Ser His Arg Trp Arg Phe Thr Cys Tyr Tyr Tyr Met Asn Thr Pro Gln Val Trp Ser His Pro Ser Asp Pro Leu Glu Ile Leu Pro Ser Gly Val Ser Arg Lys Pro Ser Leu Leu Thr Leu Gln Gly Pro Val Leu Ala Pro Gly Gln Ser Leu Thr Leu Gln Cys Gly Ser Asp Val Gly Tyr Asp Arg Phe Val Leu Tyr Lys Glu Gly Glu Arg Asp Phe Leu Gln Arg Pro Gly Gln Gln Pro Gln Ala Gly Leu Ser Gin Ala Asn Phe Thr Leu Gly Pro Val Ser Pro Ser His Gly Gly Gln Tyr Arg Cys Tyr Gly Ala His Asn Leu Ser Ser Glu Trp Ser Ala Pro Ser Asp Pro Leu Asn Ile Leu Met Ala Gly Gln Ile Tyr Asp Thr Val Ser Leu Ser Ala Gln Pro Gly Pro Thr Val Ala Ser Gly Glu Asn Val Thr Leu Leu Cys Gln Ser Trp Trp Gln Phe Asp Thr Phe Leu Leu Thr Lys Glu Gly Ala Ala His Pro Pro Leu Arg Leu Arg Ser Met Tyr Gly Ala His Lys Tyr Gln Ala Glu Phe Pro Met Ser Pro Val Thr Ser Ala His Ala Gly Thr Tyr Arg Cys Tyr Gly Ser Tyr Ser Ser Asn Pro His Leu Leu Ser Phe Pro Ser Glu Pro Leu Glu Leu Met Val Ser Gly His Ser Gly Gly Ser Ser Leu Pro Pro Thr Gly Pro Pro Ser Thr Pro Gly Leu Gly Arg Tyr Leu Glu Val Leu Ile Gly Val Ser Val Ala Phe Val Leu Leu Phe Leu Leu Leu Phe Leu Leu Leu Arg Arg Gln Arg His Ser Lys His Arg Thr Ser Asp Gln Arg Lys Thr Asp Phe Gln Arg Pro Ala Gly Ala Ala Glu Thr Glu Pro Lys Asp Arg Gly Leu Leu Arg Arg Ser Ser Pro Ala Ala Asp Val Gln Glu Glu Asn Leu Tyr Ala Ala Val Lys Asp Thr Gln Ser Glu Asp Arg Val Glu Leu Asp Ser Gln Ser Pro His Asp Glu Asp Pro Gln Ala Val Thr Tyr Ala

```
Pro Val Lys His Ser Ser Pro Arg Arg Glu Met Ala Ser Pro Pro Ser
                    550
                                         555
Ser Leu Ser Gly Glu Phe Leu Asp Thr Lys Asp Arg Gln Val Glu Glu
                                     570
Asp Arg Gln Met Asp Thr Glu Ala Ala Ala Ser Glu Ala Ser Gln Asp
                                585
Val Thr Tyr Ala Gln Leu His Ser Leu Thr Leu Arg Arg Lys Ala Thr
                            600
                                                 605
Glu Pro Pro Pro Ser Gln Glu Gly Glu Pro Pro Ala Glu Pro Ser Ile
                        615
Tyr Ala Thr Leu Ala Ile His
625
      <210> 13
      <211> 50
      <212> PRT
      <213> Homo sapiens
      <400> 13
Gly Gln Ser Val Ile Leu Arg Cys Gln Gly Pro Pro Asp Val Asp Leu
Tyr Arg Leu Glu Lys Leu Lys Pro Glu Lys Tyr Glu Asp Gln Asp Phe
                                25
Leu Phe Ile Pro Thr Met Glu Arg Ser Asn Ala Gly Arg Tyr Arg Cys
                            40
Ser Tyr
    50
      <210> 14
      <211> 1163
      <212> DNA
      <213> Mus musculus
      <400> 14
gagtegacce acgegteege tteeetgett ggccacatag eteaggactg ggttgcagaa
                                                                        60
ccatgtctcc agectcaccc actttcttct gtattgggct gtgtgtactg caagtgatcc
                                                                       120
aaacacagag tggcccactc cccaagcctt ccctccaggc tcagcccagt tccctggtac
                                                                       180
ccctgggtca gtcagttatt ctgaggtgcc agggacctcc agatgtggat ttatatcgcc
                                                                       240
tggagaaact gaaaccggag aagtatgaag atcaagactt tctcttcatt ccaaccatgg
                                                                       300
aaagaagtaa tgctggacgg tatcgatgct cttatcagaa tgggagtcac tggtctctcc
                                                                       360
caagtgacca gcttgagcta attgctacag gtgtgtatgc taaaccctca ctctcagctc
                                                                       420
atcocagete ageagteest caaggeaggg atgtgactet gaagtgeeag ageceataca
                                                                       480
gttttgatga attcgttcta tacaaagaag gggatactgg gccttataag agacctgaga
                                                                       540
aatggtaccg ggccaatttc cccatcatca cagtgactgc tgctcacagt gggacqtacc
                                                                       600
ggtgttacag cttctccagc tcatctccat acctgtggtc agccccgagt gaccctctag
                                                                       660
tgcttgtggt tactggactc tctgccactc ccagccaggt acccacggaa gaatcatttc
                                                                       720
ctgtgacaga atcctccagg agaccttcca tcttacccac aaacaaaata tctacaactg
                                                                       780
aaaageetat gaatateaet geeteteeag aggggetgag eeeteeaatt ggttttgete
                                                                       840
atcagcacta tgccaagggg aatctggtcc ggatatgcct tggtgccacg attataataa
                                                                       900
ttttgttygg gettetagea gaggattgge acagteggaa gaaatgeetg caacacagga
                                                                       960
tgagagettt geaaaggeea etaecaeeee teecaetgge etagaaataa ettggettte
                                                                      1020
agcagaggga ttgaccagac atccatgcac aaccatggac atcaccacta gagccacaga
                                                                      1080
catggacata ctcaagagtg gggaggttat ataaaaaaat gagtgtggag aataaatgca
                                                                      1140
gagccaacaa ggtgaaaaaa aaa
                                                                      1163
```

<210> 15 <211> 939

<212> DNA

<213> Mus musculus

<400> 15 atgtetecag ceteacecae titettetgt attgggetgt gtgtactgea agtgatecaa 60 acadagagtg goodactood daagoottoo otocaggoto agoodagtto cotggtacod 120 ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatcgcctg 180 gagaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa 240 agaagtaatg ctggacggta tcgatgctct tatcagaatg ggagtcactg gtctctccca 300 agtgaccage ttgagetaat tgetacaggt gtgtatgeta aacceteact eteageteat 360 cccagctcag cagtccctca aggcagggat gtgactctga agtgccagag cccatacagt 420 tttgatgaat tegttetata caaagaaggg gataetggge ettataagag acetgagaaa 480 tggtaccggg ccaatttccc catcatcaca gtgactgctg ctcacagtgg gacgtaccqg 540 tgttacaget tetecagete atetecatae etgtggteag eecegagtga eectetagtg 600 cttgtggtta ctggactete tgccactece agecaggtac ccaeggaaga ateattteet 660 gtgacagaat cctccaggag accttccatc ttacccacaa acaaaatatc tacaactgaa 720 aagcctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgctcat 780 cagcactatg ccaaggggaa tetggteegg atatgeettg gtgccaegat tataataatt 840 ttgttggggc ttctagcaga ggattggcac agtcggaaga aatgcctgca acacaggatg 900 agagetttge aaaggeeact accaeecete eeactggee 939

<210> 15 <211> 313

<212> PRT

<213> Mus musculus

245

<400> 16

Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu 1 5 10 Gln Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln 25 3.0 Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg 40 Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys 55 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu 70 75 Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His 90 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr 100 105 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly 115 120 125 Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe 130 135 140 Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys 150 155 Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser 165 170 175 Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp 180 185 190 Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala 200 205 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser 215 220 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu 230 235 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile 250

Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys 265 Leu Gly Ala Thr Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp 280 Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln 2.35 300 Arg Pro Leu Pro Pro Leu Pro Leu Ala 305 3:0 <210> 17 <211> 21 <212> PRT <213> Mus musculus <400: 17 Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu 1.0 Gln Val Ile Gln Thr 20 <210: 18 <211> 292 <212: PRT <213> Mus musculus <400> 18 Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Gln Pro Ser Ser 5 10 Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys Pro Glu Lys Tyr Glu 40 Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu Arg Ser Asn Ala Gly

Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly Arg Asp Val Thr Leu 105 Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe Val Leu Tyr Lys Glu 120 Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys Trp Tyr Arg Ala Asn 135 140 Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys 150 155 Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp Ser Ala Pro Ser Asp 170 Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala Thr Pro Ser Gln Val 180 190 185 Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser Ser Arg Arg Pro Ser 200 205 Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu Lys Pro Met Asn Ile 220 215 Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile Gly Phe Ala His Gln 230 235 His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys Leu Gly Ala Thr Ile 250

Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp Trp His Ser Arg Lys 265 Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln Arg Pro Leu Pro Pro 280 Leu Pro Leu Ala 290 <210> 19 <211> 267 <212> PRT <213> Mus musculus <400> 19 Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu 1.0 Gin Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gin 20 25 Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg 40 Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys 55 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu 70 Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His 85 90 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr 100 105 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe 135 140 Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys 150 155 Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser

170 Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp 1.85 190 Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala 200 205 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser 215 220 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu

235 230 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile 245 250

Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn

<110> 20 <211> 19 <212> PRT <213> Mus musculus

<400> 20 Leu Val Arg Ile Cys Leu Gly Ala Thr Ile Ile Ile Leu Leu Gly 1 1.0 Leu Leu Ala

```
<210> 21
      <211> 27
      <212> PRT
      <213> Mus musculus
      <400> 21
Glu Asp Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala
                 5
                                    1.0
Leu Gln Arg Pro Leu Pro Pro Leu Pro Leu Ala
            20
      <210> 22
      <211> 41
      <212> PRT
      <213> Mus musculus
      <400> 22
Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
                                    10
Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
            20
                                25
Arg Ser Asn Ala Gly Arg Tyr Arg Cys
      <210> 23
      <211> 47
      <212> PRT
      <213> Mus musculus
      <400> 23
Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe Val Leu Tyr Lys Glu Gly
1
                 5
                                    10
Asp The Gly Pro Tyr Lys Arg Pro Glu Lys Trp Tyr Arg Ala Asn Phe
                                25
Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
      <210> 24
      <211> 1896
      <212> DNA
      <213> Homo sapiens
      <400> 24
atgacgcccg ccctcacage cctgctctgc cttgggctga gtctgggccc caggacccgc
                                                                        60
gtgcaggcag ggccettece caaacecace etetgggetg agecaggete tgtgateage
                                                                       120
tgggggagcc ccgtgaccat ctggtgtcag gggagcctgg aggcccagga gtaccgactg
                                                                       180
gataaagagg gaagcccaga gcccttggac agaaataacc cactggaacc caagaacaag
                                                                       240
gccagattct ccateccate catgacagag caccatgegg ggagataceg etgecactat
                                                                       300
tacagetetg caggetggte agageceage gaceceetgg agetggtgat gacaggatte
                                                                       360
tacaacaaac ccaccetete agecetgeee agecetgtgg tggeeteagg ggggaatatg
                                                                       420
acceteegat gtggeteaca gaagggatat caccattttg ttetgatgaa ggaaggagaa
                                                                       480
                                                                       540
caccagetee eceggaceet ggacteacag cagetecaca gtggggggtt ecaggeeetg
                                                                       600
ttccctgtgg gccccgtgaa ccccagccac aggtggaggt tcacatgcta ttactattat
atgaacaccc cccaggtgtg gtcccacccc agtgaccccc tggagattct gccctcaggc
                                                                       660
gtgtctagga agccctccct cctgaccctg cagggccctg tcctggcccc tgggcagagc
                                                                       720
ctgaccctcc agtgtggctc tgatgtcggc tacgacagat ttgttctgta taaggagggg
                                                                       780
gaacgtgact tectecageg ceetggeeag cageeceagg etgggetete ceaggeeaac
                                                                       840
ttcaccetgg geoetgtgag ececteceae gggggeeagt acaggtgeta tggtgeaeae
                                                                       900
```

aacctctcct	ccgagtggtc	ggcccccagc	gaccccctga	acatcctgat	ggcaggacag	960
atctatgaca	ccgtctccct	gtcagcacag	ccgggcccca	cagtggcctc	aggagagaac	1020
gtgaccctgc	tgtgtcagtc	atggtggcag	tttgacactt	tccttctgac	caaagaaggg	1080
gcagcccatc	ccccactgcg	tctgagatca	atgtacggag	ctcataagta	ccaggctgaa	1140
ttccccatga	gtcctgtgac	ctcagcccac	gcggggacct	acaggtgcta	cggctcatac	1200
agctccaacc	cccacctgct	gtctttcccc	agtgagcccc	tggaactcat	ggtctcagga	1260
cactctggag	gctccagcct	cccacccaca	gggccgccct	ccacacctgg	tctgggaaga	1320
tacctggagg	ttttgattgg	ggtctcggtg	gccttcgtcc	tgctgctctt	cctcctcctc	1380
ttcctcctcc	tccgacgtca	gcgtcacagc	aaacacagga	catctgacca	gagaaagact	1440
gatttccagc	gtcctgcagg	ggctgcggag	acagagccca	aggacagggg	cctgctgagg	1500
aggtccagcc	cagctgctga	cgtccaggaa	gaaaacctct	atgctgccgt	gaaggacaca	1560
cagtctgagg	acagggtgga	gctggacagt	cagagcccac	acgatgaaga	cccccaggca	1620
gtgacgtatg	ccccggtgaa	acactccagt	cctaggagag	aaatggcctc	tcctccctcc	1680
tcactgtctg	gggaattcct	ggacacaaag	gacagacagg	tggaagagga	caggcagatg	1740
gacactgagg	ctgctgcatc	tgaagcctcc	caggatgtga	cctacgccca	gctgcacagc	1800
ttgaccctta	gacggaaggc	aactgagcct	cctccatccc	aggaagggga	acctccagct	1860
gagcccagca	tctacgccac	tctggccatc	cactag			1896